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May 2, 1997

BY HAND

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D.C. 20554

Re: Ex Parte Statement
International Bureau Docket No. 96-220

Dear Mr. Caton:

GE Starsys Global Positioning, Inc. ("Starsys"), by its attorneys, submits this letter to respond to certain statements made by other parties regarding coordination with Starsys, particularly in the 137-138 MHz band. As the Commission completes action in this proceeding, its decisions necessarily must take into account the limitations imposed by the operational requirements of authorized systems, including Starsys.

The narrow link margins available to Starsys necessarily would constrain either the "X/Y/Z Plan" or the "A/B Plan" now before the Commission -- or any alternative solution that could be designed. We have discussed these limits in our comments in this docket and in meetings before the Commission staff with other parties. 1/

Proponents of the "X/Y/Z Plan" have recognized these constraints, and Starsys in turn has worked with those parties to maximize opportunities for use of the 137-138 MHz band under that plan. Starsys joined in the April 11, 1997, memorandum describing the "X/Y/Z" approach because it appeared to us to be the best solution to date to the problems presented by the limited spectrum now

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1/ It is not our intention either to repeat that explanation here, or to review again the losses in margin that Starsys already has suffered since the original joint sharing agreement. For more information, see Starsys Comments at 15-22; Starsys Reply Comments at 4-8; Starsys Ex Parte Statement, April 3, 1997.

available, and the need to coordinate use of that spectrum with Starsys operations. This approach also has the important benefit of eliminating mutual exclusivity and thereby permitting licensing to go forward. We emphasize that our support for the "X/Y/Z" plan represents a significant compromise by Starsys, as it does by the other parties. All of us will require additional spectrum to make up for the fact that we have not yet received the capacity required to make our systems as robust as we originally proposed. Our support for the "X/Y/Z" solution is predicated both on that plan's coordination with Starsys, and the understanding that we will be eligible to expand our system as additional frequencies become available. As the Commission knows, Starsys is actively participating in the 1997 WRC processes to support that goal.

In principle Starsys also could accommodate alternative divisions of the available spectrum provided that use of the 137-138 MHz band adequately protected our operations. However, if the Commission were to go down this path, it would have to do so with a clear understanding of the constraints involved.

With that in mind, we have reviewed the "A/B Plan" advocated by Leo One in its April 9 letter to the Commission. 2/ Unfortunately, Leo One both understates the problems that its "A/B Plan" would have in coordinating with Starsys, and overstates the problems presented by the "X/Y/Z Plan."

Coordination Problems with the "A/B Plan"

1. Coordination with Starsys Would Require Service Link Operation in the 137-138 MHz Band To Be Severely Constrained. Under the Leo One Plan System B1 would operate service links in the primary allocation area of the 137-138 MHz band. LEO One states that nine service links and three feeder links can be accommodated in the 137-138 MHz band and successfully coordinated with Starsys, at least after NOAA vacates the APT and TIP channels. 3/

This comment is not accurate. First, to avoid causing harmful interference to the Starsys signal, any FDMA system can operate no more than a total of four 8 dBW feeder links or equivalent-powered service links in the primary MSS allocation area of the 137-138 MHz band. The operator would also be required to shut down when the satellite is the main beam of a Starsys ground station antenna. Moreover, this problem would continue after NOAA relocates. Even then, the FDMA operator would be required to reduce the power of its feeder link/service link operations when in the main beam of a Starsys ground station antenna for

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2/ See Letter of Robert Mazer to Peter Cowhey, April 9, 1997 ("Leo One Letter").

3/ Leo One Letter at 5.

three of the four vacated NOAA channels, and shut down altogether in the fourth channel at the center of the band. Leo One is aware of this problem. 4/

2. Interference with Starsys Terminal Uplinks. Leo One's System B3 would operate uplinks in the 148-149.810 MHz Band, in direct conflict with the spread-spectrum mobile terminal uplinks at 148.0-148.905 MHz. No explanation of sharing or coordination with Starsys is mentioned. Although the entire spectrum of this band could be made available to some types of spread-spectrum operations, only severely constrained operations of E-SAT would be compatible with the Starsys system in the uplink direction as proposed by LeoOne at 148.0-149.810 MHz.

Implications of Starsys Margin Constraints on Use of the 137-138 MHz Band

Implications for the "A/B Plan": It is clear that Leo One has exaggerated the amount of capacity that would be available in the 137-138 MHz band, and therefore the ability of an FDMA system to meet its service and feeder link requirements in that band. It follows that Leo One's characterization of the ability of Final Analysis (or any other FDMA system) to operate in that band is not reliable. Leo One also has proposed a plan that would result in interference to other spread spectrum systems (S80-1) planning to operate in that band.

Leo One has argued that its service requirements are more deserving than those of other parties, and that other applicants should either be dismissed or forced to accept degradation while Leo One itself receives less constrained spectrum in the 400 MHz band. Starsys and other parties have previously responded to this self-serving business position. 5/ Our point here is a technical one. Insofar as Leo One proposes to assign its rivals to the 137-138 MHz band, it has exaggerated the ability of those firms to operate in coordination with Starsys.

Implications for the "X/Y/Z Plan": Ironically, in its April 9 letter Leo One also minimizes its own ability to operate in the 137-138 MHz band. Leo One argues that "the technical design" of its system makes it "extremely difficult for a

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4/ *See* Leo One Letter at n.8.

5/ We take strong exception to the suggestion that only Leo One has plans for "real time" or "near real time" services. Starsys intends to provide them as well in the future as more spectrum becomes available. But meanwhile, we must live with the capacity constraints facing us and all operators. If Leo One is not willing to do the same, and if the result is that it decides not to proceed with its system as it threatens (see Leo One Letter at 1), then so be it.

successful coordination to be concluded with GE Starsys" under the "X/Y/Z Plan." 6/ However, Leo One does not explain the nature of these design constraints. We note that other operators have adequately engineered their systems to permit such coordination, and that Leo One itself presumably has the flexibility to coordinate with systems such as the DMSP. If it cannot coordinate with Starsys, this would suggest a flaw in the "technical design" to which Leo One refers.

Leo One attempts to argue that "[d]ue to the large size of [its] system and its system architecture, the downlink falls into the GE Starsys mainbeam an average 35% of the time over CONUS and as a high as 44% depending upon gateway location." 7/ However, this statement is misleading at best. Leo One will be able to use its multiple gateway frequencies and satellites to achieve a nearly negligible loss of capacity or connectivity. Leo One can simply shift use of their gateway channels to other satellites that will not be in the main beam of a Starsys antenna during that pass. 8/

If anything, the large number of satellites in the Leo One system means that Leo One will be less affected by coordination with Starsys in this band than other FDMA operators. A system with more satellites will have a larger percentage of its overall feederlink operations still in service when any one satellite is required to shut down for a short time while in the main beam of the Starsys ground station. In short, Leo One would at most suffer a temporary loss of capacity, but not a loss of availability. Of course, all parties here, including Starsys, suffer capacity constraints that are preventing us from fully executing our business plans.

Conclusion

Starsys shares the frustration of all parties at the limited amount of available NVNG MSS spectrum. Our business plans have had to be scaled back as well. That is why we are working actively to help the U.S. government obtain additional spectrum at WRC-97.

6/ Leo One Letter at 6.

7/ Leo One Letter at n.9.

8/ We note that Leo One states that its availability will be further reduced "if . . . it is required to turn off a satellite" when in the main beam of a GE Starsys satellite. Leo One Letter at 6 (emphasis added). There is no question that this shut down would be required to protect Starsys from harmful interference, and the Commission must be clear on this point. But as discussed above, Leo One would face a negligible impact on availability.

Meanwhile, however, this rulemaking must respect the remaining Starsys link margins, and the constraints this places on use of the 137-138 MHz band. We have had discussions with all parties, and worked to help fashion a plan that can accommodate entry by the applicants now pending allocation of new spectrum later. We have taken this course both to meet our coordination responsibilities, and because any move to auctions would be so devastating to the international development of satellite systems such as NVNG MSS.

At this point we believe that the best solution here is the "X/Y/Z Plan," the product of days of work by the parties and much compromise on all sides. Another alternative might be to wait six months until completion of WRC-97, when an even better solution might be possible that incorporates additional spectrum. But however the Commission decides this docket, it must be realistic about the technical constraints facing other parties using the 137-138 MHz band. The Leo One Letter is not helpful to that process.

Respectfully submitted,

STARSYS GLOBAL POSITIONING, INC.

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